



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,237	10/23/2003	Charles E. Kelly	MIC-49 (P50-0122)	8378
34043	7590	05/18/2005	EXAMINER	
DORITY & MANNING, PA & MICHELIN NORTH AMERICA, INC			A, MINH D	
P O BOX 1449			ART UNIT	
GREENVILLE, SC 29602-1449			PAPER NUMBER	
			2821	

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/692,237

Applicant(s)

KELLY ET AL.

Examiner

Minh D. A

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 35 is/are allowed.
- 6) ☒ Claim(s) 1-13, 20-30, 32-34, 36-38, 40, 57, 58, 60, 64 and 65 is/are rejected.
- 7) ☒ Claim(s) 14-19, 31, 39, 41-56, 59, 61-63 and 66-68 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/23/05</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-13, 20-30, 32-34, 36-38, 57-58, 60, 64-65 are rejected under 35 U.S.C. 102(a) as being unpatentable by Forster et al (US 6,853,347).

Regarding claim 1, Forster discloses an electronics component assembly in a tire comprising: a tire (50); a mounting member incorporated in the tire, including means for securing an antenna (17) thereto; at least a first antenna wire (17A) incorporated in the tire (50) and connected to the mounting member; an integrated circuit (10) carried by the mounting member and in communication with the first antenna wire (17A). See figures 4A-8B, col.10, lines 50-67 to col.15, lines 1-15.

Regarding claim 2, Forster discloses that, the mounting member is a small outline package. See figures 4A-8B.

Regarding claim 3, Forster inherently discloses a second antenna wire (17B) incorporated in the tire and connected to the small outline package', and inherently discloses a first and second retaining groove the first antenna wire is at least partially retained by the first retaining groove and the second antenna wire is at least partially retained by the second retaining groove. See figures 4A-8B, the antenna (17) having a first and second antenna wire securing in the tire (50).

Art Unit: 2821

Regarding claim 4, Forster inherently discloses wherein the small outline package has a longitudinal axis, and wherein the first and second retaining grooves are perpendicular to the longitudinal axis of the small outline package. See figures 4A-8B, the antenna (17) having a first and second antenna wire securing in the tire (50).

Regarding claim 5, Forster discloses wherein the small outline package has a longitudinal axis, and wherein the first and second retaining grooves are parallel to the longitudinal axis of the small outline package. See figures 4A-8B.

Regarding claim 6, Forster discloses wherein the mounting member (carbon back having integrated circuit) is a printed circuit board. See figures 4A-8B.

Regarding claim 7, Forster discloses comprising a second antenna wire (17B) incorporated in the tire and connected to the printed circuit board. See figures 4A-8B.

Regarding claim 8, Forster discloses wherein the printed circuit board has a longitudinal axis, and wherein a length of the end of the first antenna wire is connected to the printed circuit board and is oriented perpendicular to the longitudinal axis, and wherein a length of the end of the second antenna wire is connected to the printed circuit board and is oriented perpendicular to the longitudinal axis. See figures 4A-8B.

Regarding claim 9, Forster discloses a first and second antenna receiving aperture, wherein an end of the first antenna wire is hooked shaped and is received by the first antenna receiving aperture, and wherein an end of the second antenna wire is hooked shaped and is received by the second antenna receiving aperture. See figures 4A-12B.

Regarding claim 10, Forster discloses wherein the first and second antenna wires are further connected to the printed circuit board by a connection selected from the group consisting of soldering. See figures 4A-12B, col.18, lines 19-35.

Regarding claim 11, Forster discloses wherein the printed circuit board has a longitudinal axis, wherein a length of the end of the first antenna wire is connected to the printed circuit board and is oriented parallel to the longitudinal axis, and wherein a length of the end of the second antenna wire is connected to the printed circuit board and is oriented parallel to the longitudinal axis. See figures 4A-8B.

Regarding claim 12, Forster discloses an antenna wire is a connection selected from the group consisting of soldering. See col.18, lines 19-35.

Regarding claim 13, Forster discloses the first antenna wire is in communication with the integrated circuit through a soldering connection. See figures 4A-12B.

Regarding claim 20, Forster discloses a first mounting member wire connected to the first antenna wire and the integrated circuit for placing the first antenna wire into communication with the integrated circuit. See figures 4A-12B.

Regarding claim 21, Forster discloses that, a second antenna wire incorporated in the tire and connected to the mounting member and a second mounting member wire connected to the second antenna wire and the integrated circuit for placing the second antenna wire into communication with the integrated circuit. See figures 4A-12B.

Regarding claim 22, Forster discloses that, an antenna wire comprises a first bonded connection through which the first antenna wire is placed into communication with the integrated circuit. See figures 4A-12B.

Regarding claim 23, Forster discloses the first bonded connection is a soldered connection. See col.18, lines 19-35.

Regarding claim 24, Forster discloses comprising a second antenna wire incorporated in the tire and connected to the mounting member, wherein said means for securing further comprises a second bonded connection through which the second antenna wire is placed into communication with the integrated circuit, and wherein the second bonded connection is a soldered connection. See col.18, lines 19-35.

Regarding claim 25, Forster discloses that, a tire; a mounting member incorporated in the tire, the mounting member having a first side and a second side, the first side opposite from the second side; a first antenna wire securely attached to the mounting member, the first antenna wire incorporated in the tire; a second antenna wire securely attached to the mounting member, the second antenna wire incorporated in the tire; an integrated circuit carried by the mounting member; a first communication connection configured for placing the second antenna wire into communication with the integrated circuit; and a second communication connection configured for placing the second antenna wire into communication with the integrated circuit. See figures 4A-12B.col.10, lines 50-67 to col.15, lines 1-15.

Regarding claim 26, Forster discloses that, the mounting member is a small outline package. See figures 4A-8B.

Regarding claim 27, Forster inherently discloses that, wherein the small outline package has a first and second retaining groove, wherein the first antenna wire is at least partially retained by the first retaining groove, and wherein the second antenna

Art Unit: 2821

wire is at least partially retained by the second retaining groove. Since antenna (17) having a first antenna (17A) and second antenna (17B) attach at tire. See figures 4A-8B.

Regarding claim 28, Forster discloses that, the mounting member is a printed circuit board. See figures 4A-8B.

Regarding claim 29, Forster discloses that, the mounting member has a longitudinal axis, wherein a length of the end of the first antenna wire is securely attached to the mounting member and is oriented perpendicular to the longitudinal axis, and wherein a length of the end of the second antenna wire is securely attached to the mounting member and is oriented perpendicular to the longitudinal axis. See figures 4A-8B.

Regarding claim 30, Forster discloses that, the first and second: antenna wire are securely attached to the mounting member by a secure attachment selected from the group consisting of soldering. See figures 4A-12B, col.18, lines 19-35.

Regarding claims 32-33, Forster discloses that, the first communication connection is a first mounting member wire connected to the first antenna wire and the integrated circuit, and wherein the second communication connection is a second mounting member wire connected to the second antenna wire and the integrated circuit. See figures 4A-12B.

Regarding claim 34, Forster discloses that, the first and second bonded connections are soldered connections. See col.18, lines 5-35.

Regarding claim 36, Forster discloses that, a mounting member (10) incorporated in a tire (50) and having a first retaining connection that is at least partially curved in shape; a first antenna wire incorporated in the tire, and connected to the first retaining connection; and an integrated circuit carried by the mounting member and in electrical communication with the first antenna wire. See figures 4A-8B, col.10, lines 50-67 to col.15, lines 1-15.

Regarding claim 37, Forster discloses that, the mounting member includes a flat base, and wherein the first retaining connection includes a first pair of fingers that are semi-circular in shape and are attached to the base. See figures 4A-12B, col.18, lines 5-35.

Regarding claim 38, Forster discloses that, a second antenna wire incorporated in the tire; and wherein the mounting member has a second retaining connection that is at least partially curved in shape, and wherein the second antenna wire is connected to the second retaining connection. See figures 4A-12B, col.18, lines 5-35.

Regarding claim 57, Forster discloses The electronics component assembly of claim 56, further comprising a cover that protects the integrated circuit, the first mounting member wire, and the second mounting member wire. See figures 4A-12B, col.18, lines 5-35.

Regarding claim 58, Forster discloses that a tire (50); a mounting member incorporated in the tire and having a first retaining connection that is at least partially cylindrical in shape, and a second retaining connection that is at least partially cylindrical in shape', a first antenna wire incorporated in the tire and connected to the

Art Unit: 2821

first retaining connection; a second antenna wire incorporated in the tire and connected to the second retaining connection', and an integrated circuit carried by the mounting member and in electrical communication with the first and second antenna wires. See figures 4A-8B, col.10, lines 50-67 to col.15, lines 1-15.

Regarding claim 60, Forster discloses the first antenna wire is connected to the first retaining connection and the second antenna wire is connected to the second retaining connection by a connection selected from the group consisting of mechanical fasteners, welding, and adhesion. See figures 4A-12B, col.18, lines 5-35.

Regarding claim 64, Forster discloses a first mounting member wire connected to the first antenna wire and the integrated circuit for placing the first antenna wire into electrical communication with the integrated circuit', mounting member wire connected to the second antenna wire and the integrated circuit for placing the second antenna wire into electrical communication with the integrated circuit', and wherein the mounting member has flat portion onto which the integrated circuit is mounted. See figures 4A-8B, col.10, lines 50-67 to col.15, lines 1-15.

Regarding claim 65, Forster discloses that, a cover that protects the integrated circuit. See figures 8A-8B.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said

Art Unit: 2821

subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Forster et al (US 6,853,347) in view of Baizer et al (Us 6,217,683).

Regarding claim 40, Forster discloses that, the first antenna wire is connected to communication device, however, Forster does not disclose the first retaining connection by a connection selected from the group consisting of mechanical fasteners, welding, and adhesion.

Baizer discloses the first retaining connection by a connection selected from the group consisting of mechanical fasteners, welding, and adhesion. See figures 10A-11D, col.11, lines 5-67 to col.12, lines 1-67.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the first retaining connection by a connection selected from the group consisting of mechanical fasteners, welding, and adhesion such as that suggested by Baizer in the apparatus of Forster in order to improve the antenna more secure in the tire or held in a proper location within the tire.

Allowable Subject Matter

5. Claims 14-19, 31, 39, 41-56, 59, 61-63, 66-68 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not teach that, the mounting member has a first side and a

Art Unit: 2821

second side, the first side opposite from the second side, and wherein for securing comprises a first antenna wire receiving aperture extending from the first side of the mounting member to the second side of the mounting member, and wherein an end of the first antenna wire is received in the first antenna wire receiving aperture recited in dependent claims 14 and 31.

The prior art does not teach that, a tire; a printed circuited board incorporated in the tire, the printed circuit board having a first side and a second side, the first side opposite from the second side, the printed circuit board having a first antenna wire receiving aperture extending from the first side of the printed circuit board to the second side of the printed circuit board and the printed circuit board having a second antenna wire receiving aperture extending from the first side of the printed circuit board to the second side of the printed circuit board; a first antenna wire having an end and a bend, the bend in the first antenna wire receiving by the first antenna wire receiving aperture, and the end of the first antenna wire extending from the first side of the printed circuit board through the first antenna wire receiving aperture and to the second side of the printed circuit board; a second antenna wire having an end and a bend, the bend of the second antenna wire received by the second antenna wire receiving aperture, and the end of the second antenna wire extending from the first side of the printed circuit board through the second antenna wire receiving aperture and to the second side of the printed circuit board; an integrated circuit carried by the mounting member; a first mounting member wire connected to the first antenna wire and the integrated circuit configured for placing the first antenna wire into communication with the integrated

Art Unit: 2821

circuit and a second mounting member wire connected to the second antenna wire and the integrated circuit configured for placing the second antenna wire into communication with the integrated circuit recited in independent claim 35.

The prior art does not teach that, a first mounting member wire connected to the first antenna wire and the integrated circuit for placing the first antenna wire into electrical communication with the integrated circuit; and a second mounting member wire connected to the second antenna wire and the integrated circuit for placing the second antenna wire into electrical communication with the integrated circuit', and wherein the mounting member includes a flat base and the integrated circuit is attached to the base; the first retaining connection includes a first and third pair of fingers that are semi-circular in shape and are attached to the base and engage the second antenna wire to connect the second antenna wire to the mounting member recited in dependent claim 39.

The prior art does not teach that, the mounting member has an axis and is generally tubular in shape, and wherein the first retaining connection includes a first angled portion that is a part of the wall of the mounting member that is angled towards the axis of the mounting member, and wherein the first antenna wire is connected to the mounting member through engagement with the first angled portion recited in dependent claim 41.

The prior art does not teach that, the mounting member has an axis and is generally tubular in shape; the first retaining connection includes a first angled portion that is a portion of the wall of the mounting member that is angled towards the axis of

Art Unit: 2821

the mounting member, the first antenna wire is connected to the mounting member through engagement with the first angled portion; the second retaining connection includes a second portion that is a portion of the wall of the mounting member that is angled towards the axis of the mounting member, the second antenna wire is connected to the mounting member through engagement with the second angled portion; the mounting member includes a first stop that is a portion of the wall of the mounting member that is angled towards the axis of the mounting member, the first antenna wire abuts against the first stop; the mounting member includes a second stop that is a portion of the wall of the mounting member that is angled towards the axis of the mounting member, the second antenna wire abuts against the second stop recited in dependent claim 45.

The prior art does not teach that, the mounting member has an axis and is generally tubular with a solid central section; the first retaining connection includes a first angled portion that is a portion of the wall of the mounting member that is angled towards the axis of the mounting member, the first antenna wire is connected to the mounting member through engagement with the first angled portion, the first antenna wire abuts against an end of the solid central section; and the second retaining connection includes a second angled portion that is a portion of the wall of the mounting member that is angled towards the axis of the mounting member, the second antenna wire is connected to the mounting member through engagement with the second angled portion, the second antenna wire abuts against an end of the solid central section recited in dependent claim 47.

The prior art does not teach that, the mounting member is in the shape of a generally solid cylinder, the first retaining connection is a cylindrical cavity that has internal threads, the second retaining connection is a cylindrical cavity that has internal threads; the first antenna wire has external threads that are engageable with the internal threads of the first retaining connection to connect the first antenna wire to the mounting member; and the second antenna wire has external threads that are engageable with the internal threads of the second retaining connection to connect the second antenna wire to the mounting member recited in dependent claims 51, 50, 54 and 62-63,

The prior art does not teach that, the mounting member has an axis and has a solid central section; the first retaining connection includes a first angled portion that is a portion of the wall of the mounting member that is angled towards the axis of the mounting member, the first antenna wire is connected to the mounting member through engagement with the first angled portion, the first antenna wire abuts an end of the solid central section; and the second retaining connection includes a second angled portion that is a portion of the wall of the mounting member that is angle towards the axis of the mounting member, the second antenna wire is connected to the mounting member through engagement with the second angled portion, the second antenna wire abuts an end of the central section recited in dependent claim 61.

The prior art does not teach that, the mounting member has an axis and is generally tubular in shape; the first retaining connection includes a first angled portion that is a portion of the wall of the mounting member that is angled towards the axis of the mounting member, the first antenna wire is connected to the mounting member

Art Unit: 2821

through engagement with the first angled portion; the second retaining connection includes a second angled portion that is a portion of the wall of the mounting member that is angled towards the axis of the mounting member, the second antenna wire is connected to the mounting member through engagement with the second angled portion; the mounting member includes a first stop that is a portion of the wall of the mounting member that is angled towards the axis of the mounting member, the first antenna wire abuts the first stop; and the mounting member includes a second stop that is a portion of the wall of the mounting member that is angled towards the axis of the mounting member, the second antenna wire abuts the second stop are recited in dependent claim 66.

The prior art does not teach that, a tire; a mounting member incorporated in the tire, the mounting member is generally tubular in shape with a solid central section and an axis, the mounting member has a flat portion on the solid central section, the mounting member includes a first retaining connection that has a first angled portion that is a portion of the wall of the mounting member that is angled towards the axis of the mounting member, the mounting member includes a second retaining connection that is a second angled portion that is a portion of the wall of the mounting member that is angled towards the axis of the mounting member; a first antenna wire incorporated in the tire, the first antenna wire is incorporated the mounting member through engagement with the first angled portion of the first retaining connection; a second antenna wire incorporated in the tire, the second antenna wire is connected to the mounting member through engagement with the second angled portion of the second

Art Unit: 2821

retaining connection; an integrated circuit mounted' on the flat portion of the solid central section of the mounting member', a first mounting member wire connected to the first antenna wire and' the integrated circuit for placing the first antenna wire into electrical communication with the integrated circuit', a second mounting member wire connected to the second antenna wire and the integrated circuit for placing the second antenna wire into electrical communication With the integrated circuit', a cover that protects the integrated circuit, the first mounting member wire, and the second mounting member wire are recited in independent claim 68.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Koch et al (US 6,444,069) and Starkey et al (US 6,683,537) are cited to show an antenna within the tire.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 –2:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and (703) 872-9319 for final communications.

Art Unit: 2821

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-1553.

A handwritten signature in black ink, appearing to read "Minh A.", with a long horizontal flourish extending to the right.

Examiner

Minh A

Art unit 2821

4/29/05